

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: APR. 22 1982

SUBJECT: SP Oliver Yard (former Olin Site), Houston, Texas TX01538

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Enforcement Section

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On Thursday, March 18, while returning to Dallas from my trip to Mission, I stopped in Houston and toured the SP Oliver Yard (former Olin Site) at 7621 Wallisville Road. I first toured the perimeter of the site with Mr. Clarence Johnson of the TDWR Deerpark office, and then we obtained permission from Mr. Dick Powell, a manager of Mustang Equipment, to tour the Mustang property. My observations and comments on the site are as follows:

I. Physical Conditions

1. The eastern sector of the site (owned by the Southern Pacific Railroad Company) is completely vacant. It has been covered by a layer of asphalt-like material.
2. The northwestern sector of the site (owner by Mustang Tractor and Equipment Company and leased to Seatrain Pacific Services, Inc.) is covered with a layer of crushed stone and shell which appears to be roughly 18 inches thick, and is currently being used to store truck trailers.
3. The southwestern sector of the site (now owned and occupied by Mustang Tractor and Equipment Company) is mostly covered by either buildings or asphalt. One area of this property (approximately 200' x 200') is still uncovered (i.e., it is just dirt and vegetation).

II. Contaminated and Uncontaminated Areas

1. According to recent sampling, the most contaminated area of the site is the north - south ditch along its eastern edge. Pesticide levels there range up to 41,508 ppm.
2. A drainage area along the northeastern side of the site (running in an east-west direction) is also heavily contaminated, one sample showing a pesticide concentration of 1490 ppm.
3. The area of the drainage ditch upstream of the site and upstream of the ditch mentioned in 2.II.1 above is also somewhat contaminated, one sample showing a pesticide concentration of 73 ppm.



4. The on-site area with the largest detected pesticide level is the northern sector of the Southern Pacific section of the site. A surface sample here showed pesticide of 2030 ppm. Samples acquired at 24" and 48" depth from the same location however, indicated pesticides of less than 1.0 ppm.

This was from the ditch, not the covered northern sector.

5. The surface of the Seatrain lot (northwestern area of site) is also somewhat contaminated, one surface sample showing a pesticide level of 37.4 ppm. Samples at 24" and 48" from the same location, however, showed pesticides of less than 1.0 ppm.

6. Samples from depths of 24" and 48", and at the surface were collected from the open area of the Mustang-owned and occupied property, but they all showed pesticides of less than 1.0 ppm.

7. One location from a drainage ditch in the center of the site was sampled, the surface showing 15.0 ppm, and the 24" and 48" depths each showing less than 1.0 ppm.

III. Issues

1. Olin Chemical has submitted a draft Remedial Action Plan to EPA, and it provides, among other things, for removal of contaminated materials from the north-south drainage ditch at the east side of the plant, and replacement with clean compacted clay. Their proposal calls for removal of 2.5 feet in depth along 600 feet of the most contaminated portion of the ditch, and removal of 1.5 feet in depth along the remaining 500 feet of the ditch. The distance dimensions of their proposal (along the length of the ditch), seem adequate, but the proposed depth of removal will doubtlessly leave some contaminated materials behind in certain places (see Figure 1). In the most contaminated area, for example, a sample at 24" revealed at pesticide level of 41,508 ppm, and only 30" are proposed to be removed there.

Options:

a. Assume Olin's proposal is adequate (i.e., that the 2.5 foot cover that they have proposed will adequately prevent movement of contaminated materials), and allow them to carry out their plan as they have already described it.

b. As regards item a. above, we have no convincing information which shows that migration of contaminated materials will not occur, or that only insignificant amounts of further contamination will remain. We might therefore require Olin and the other responsible parties to do further sampling to establish the degree of subsurface water movement in this area, and/or to establish the extent of contamination beyond what is already known to exist in this area.

c. A middle-of-the-road approach is to allow Olin to carry out their plan as proposed, with one additional item: that in the most contaminated area, they also remove and replace any visibly contaminated materials. This option would require Olin to remove the bulk of remaining contamination without giving them the burden and expense of additional sampling and analysis.

2. One of EPA's samples indicates contamination in the drainage ditch upgradient of the area mentioned in III.1. above. During an on-site meeting between the FIT and site representatives on January 13, 1982, a consensus was reached among the parties that additional sampling is needed in the upgradient ditch. A consensus was also reached on the need for further sampling along the east - west drainage area at the north edge of the property and along a drainage ditch through the center of the site. The number and locations of samples is an issue that can be resolved by the technical staff of EPA and Ecology and Environment, but the following two issues need decisions from EPA Management:

a. Who should acquire and analyze the additional samples? The cooperative spirit among the responsible parties is at best quite fragile, and they feel that sampling and analysis by EPA, rather than by them, would avoid strain on their fragile relationship. They therefore want EPA to obtain and analyze these samples.

b. How clean is clean? What pesticide level will be the cutoff according to which a decision to clean or not to clean an area will be made? It is possible, however, that the sampling will reveal that certain areas are obviously contaminated and certain areas are not. If this turns out to be the case, then we will not have to squabble over a particular clean-up level; we will just clean up the contaminated areas. It will probably therefore be best to delay any decisions on how clean is clean until after the additional samples are analyzed.

3. One of the EPA samples shows that the surface of the Southern Pacific sector of the site is heavily contaminated with pesticides (2030 ppm). The 24" and 48" depths at this same location are relatively uncontaminated (less than 1.0 ppm pesticides). It therefore appears that the surface of this area is contaminated, and that the subsurface is not. This degree of surface contamination is unacceptable, however. As a rough but not entirely analagous comparison, we are cleaning a residential area at another pesticide site in Texas (the Mission site) down to 8-10 ppm.

Since the SP Oliver Yard is not a residential area, we do not necessarily have to clean-up to 8-10 ppm, but we still ought to do a lot better than 2030 ppm. It is therefore recommended that further surface sampling be conducted to determine the extent of contamination here. Remedial options will include removal or covering, depending on the results of the sampling.

Problems associated with this area of the site are:

- a. Will EPA or the responsible parties do this sampling?
- b. This area of the site it has already been covered with an asphalt-like material. It is unfortunate that the cover itself seems to have been contaminated.
- c. Once the additional sampling is completed, we will have to determine how clean is clean.

4. The Seatrain section of the site, the northwest corner, had pesticide levels of 37 ppm in a surface sample, and pesticide levels of less than 1.0 ppm at 24" and 48" depths at the same location. As with #3 above, it appears that, at least at the sampled location, the surface is somewhat contaminated, while the subsurface is not. This is again somewhat unfortunate because the surface has already been covered; it appears that the cover itself has been contaminated. The degree of contamination here, however, is not particularly high; it is borderline between needing some sort of remedial work and not needing it. Further, compounding the problems with this area are:

- a. The cover in this area, a layer of crushed stone and shell, results in extremely dusty conditions (writer's observation of 3/18/82). This inclines the writer to feel that remedial work--asphalting, perhaps -- might be appropriate.

b. This area is parking lot for truck trailers, some of which are stacked three trailers high. Perhaps as much as 30-50% of this area is covered by truck trailers stacked on top of each other, making any remedial efforts quite difficult.

Given the above conditions, is a clean-up warranted? Should we obtain the opinion of a professional toxicologist?

5. As mentioned earlier, the Mustang section of the site (the southwest sector), is largely covered by either buildings or asphalt, except for one segment of open ground. Since even this open ground was essentially uncontaminated (pesticide concentrations were less than 1.0 ppm) no action is deemed necessary for this sector of the site.

6. The final problem area at this site involves waste disposed in several underground locations. Aerial photography indicates that wastes have been deposited in pits or ponds beneath the current Seatrain section of the site. Olin has also indicated the existence of a former pit in the now uncovered area of the Mustang sector of the site. The existence of this pit is not confirmed by aerial photography, and samples in this general vicinity have indicated essentially no contamination at the surface or either the 24" or 48" depths. Further investigation is needed to confirm the existence or nonexistence of this former pit. It is possible that Olin mislocated this pit on the sketch they submitted, and that it might actually be one of the pits shown by aerial photograph to be in the Seatrain sector of the site.

It is not now known if any leaching of materials is occurring from the former pits on the Seatrain property. The subsurface stratigraphy in this area is not now clearly defined, but is thought to be primarily clay with some sand stringers which could permit relatively easy migration of contaminated materials. Aside from the subsurface stratigraphy, it appears that solvents, particularly xylene, have been deposited in this pits along with the pesticide materials. These solvents would strongly enhance the mobility of the pesticide materials.

Although we have no conclusive evidence that leaching is occurring from the former pit on the current Southern Pacific property, one of the areas in the north-south ditch on the east side of the Southern Pacific property shows pesticide peaks in the same general vicinity as a former pit. It is therefore likely that leaching is occurring from this pit.

Olin is aware of at least the pits on the Seatrain sector of the site, but they have no indicated an awareness of the pit on the Southern Pacific sector.

In past communications from Olin, they have indicated an opinion that "the character of surface and immediate subsurface soils and the solubility of the contaminants are such that significant migration of contaminants with the groundwater will not occur." They have therefore felt that it is unnecessary to do any remedial work to address the possibility of contaminated materials.

Given the possible existence of sandy and permeable materials in the subsurface, the alleged existence of solvents in the disposal pits, and a highly possible existence of a current leaching condition (at the eastern edge of the Southern Pacific property), the unlikelihood of subsurface migration seems to be not nearly as certain as Olin suggests. Because of the above circumstances, it appears that some form of additional investigative and/or remedial action is essential.

Options:

- a. Ecology and Environment has recommend that a seismic survey be completed. According to E & E, this type of survey will give information on such things as type, porosity, and water content of subsurface materials, possibly the depths of such materials, and locations of potential water-bearing sand lenses. This method, however, will apparently not tell us if migration of contaminated materials has occurred, but rather just a rough likelihood that it might occur. And given that solvents are said to be among the buried materials, this method could underestimate the likelihood of migration.
- b. Monitoring wells could be required. This is probably the most definitive, if not the only definitive, method for ascertaining the existence of subsurface migration of contaminated materials.

Even if a seismic study as mentioned above is carried out, we can not be sure of the existence or nonexistence of subsurface migration without monitoring wells. The RCRA Regs, for example, require monitoring wells at hazardous waste sites, not seismic surveys.

- c. A seismic survey might, however, indicated a very low likelihood of migration. This low likelihood, together with the primarily industrial nature of the surrounding area, could yield an adequate justification for not requiring groundwater monitoring.

d. Another approach that would avoid the need for groundwater monitoring is to define the location and extent of the former pits, and to remove their contents and dispose of them in an approved landfill. Given the potentially large costs for the necessary investigative and removal work, however, Olin has not yet been receptive to this idea.

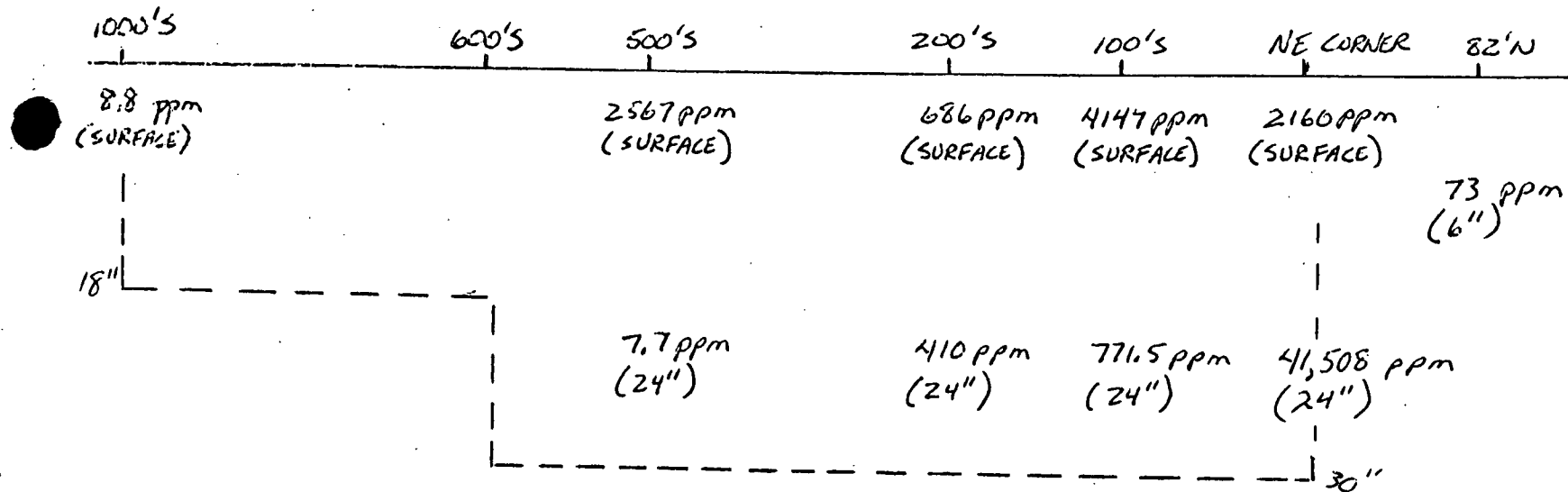
e. At an absolute minimum, we should ascertain whether or not the former pit on the eastern side of the Southern Pacific property is a source of migrating contaminants. Olin should be given the responsibility for making this determination.

Recommendation:

Request that Olin conduct the seismic survey, and inform them that depending upon the results of the monitoring, wells might or might not be required. Also inform them that we have not yet ruled out the need for remedial work (removal of contaminated materials, for example), and that the results of such a survey could establish the need for or nonnecessity of remedial work at this time. Finally, have Olin carry out item e. above.

FIGURE 1.

CROSS SECTION OF DITCH ON EAST SIDE OF S.P. OLIVER YARD



CONCENTRATIONS ARE TOTAL PESTICIDE CONCENTRATIONS IN PARTS PER MILLION

DASHED LINES INDICATE REMOVAL PROPOSED BY OLIN

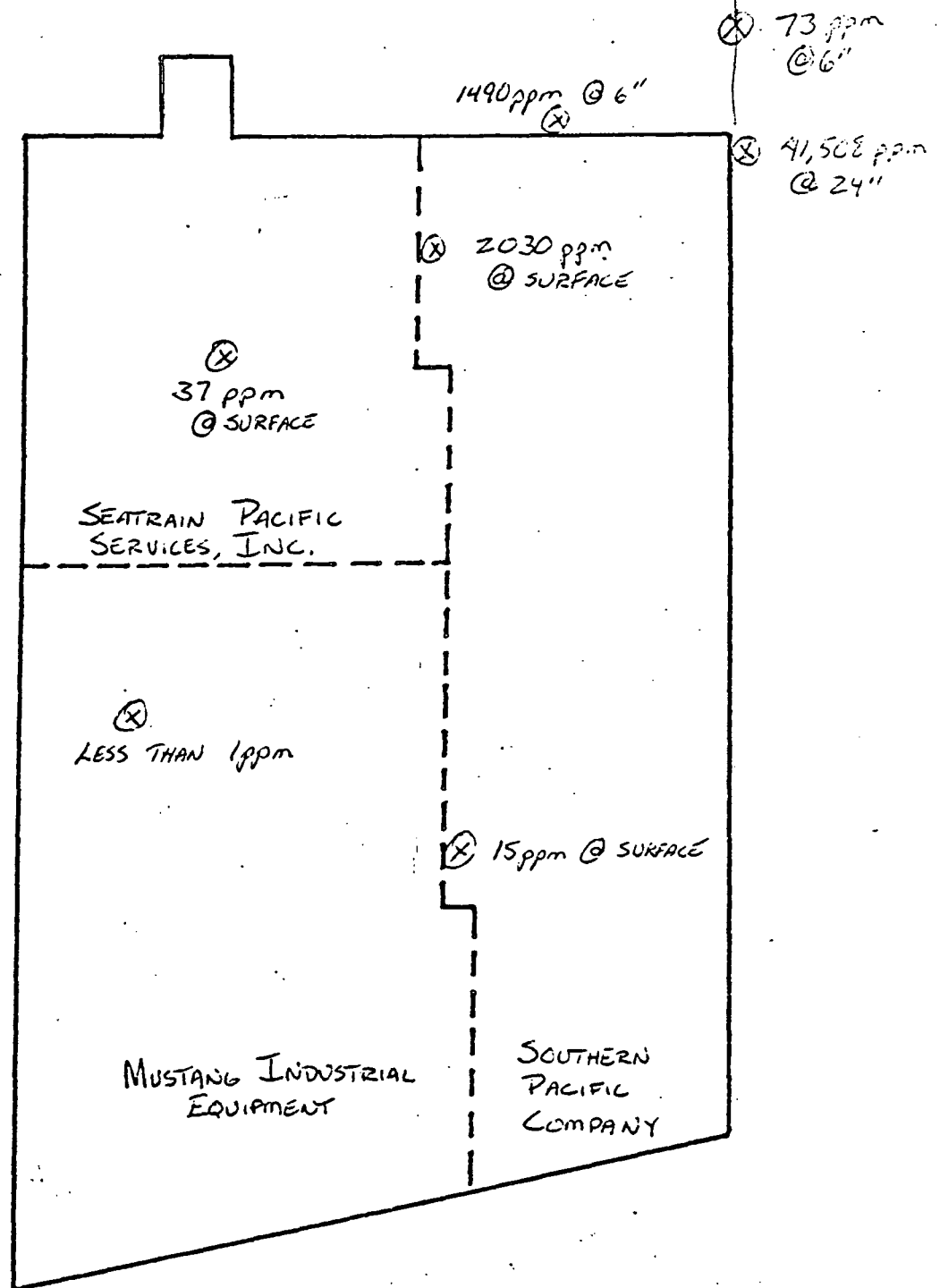


FIGURE 2.
FORMER OLIN PLANT SITE
7621 WALLISVILLE ROAD
HOUSTON, TEXAS
(ABOVE CONCENTRATIONS ARE FOR TOTAL PESTICIDES)